Remarks/Arguments

Attorney for Applicants thanks the Examiner for the courtesies extended to him during the course of a telephone interview, which took place on May 6, 2004 with respect to the subject application. During the course of this interview, the claims, as originally filed, were reviewed and restriction of the claims by the Examiner was noted. This paper reflects the substance of the telephone interview.

Attorney for Applicants confirms that Applicants have elected to prosecute the invention defined by Claims 1 to 5 (designated Group 1) drawn to single or multi-layer film products. It is respectfully solicited that the Examiner, upon allowance of the claimed invention presently under consideration, reconsider and recombine the allowed claims with claims of other Groups of the restriction.

Attorney for Applicants further confirms that Applicants have elected a single specie for prosecution according to the mandates of 35 U.S.C. 121. The specie of generic Claim 1 to which election is made is polyesters having mer units formed from:

(A) tetrahydrophthalic anhydride

(B) hexanediol

(C) trimethylol propane

(D) isophthalic acid.

The listing of claims is Appendix 1 of this Amendment indicates Claims 6 to 14 to be withdrawn according to 37 CFR 1.142(b), in view of Examiner and Attorney for Applicants telephonic agreement.

The claims presently under consideration are directed to film products composed of at least on layer, wherein at least one of the layer(s) comprises particular film forming polyester polymeric materials. The required polyester is composed of a specific combination of polycarboxylic acids of a major amount of tetrahydrophthalic anhydride (THPA) and a minor amount of isophthalic acid. The polyols required to form said polyester are higher hydrocarbylene (C_5 or greater) diols (e.g. hexanediol) in combination with minor amounts of triol (e.g. trimethylol propane).

The presently required polyesters formed having claimed mer units derived from monomers (A), (B), (C) and (D), in amounts presently defined and in molar ratio of acid to hydroxyl groups of 0.9:1 to 1.1:1 have been unexpectedly found to form a product capable of:

being readily formed into flexible film products suitable for food packaging and the like applications;

exhibiting low Tg yet being non-tacky, solid substance at ambient temperature conditions;

actively and effectively scavenging (reacting with, absorbing and/or adsorbing) oxygen within the food container under both ambient and refrigeration conditions; and

inhibiting the formation of low molecular weight and oligomeric by–products which are capable of tainting the packaged product.

Thus, the presently claimed film provides a wrapping, for food and other products susceptible to oxygen deterioration, which scavenges the oxygen from the packaging atmosphere under a wide range of storage conditions while not tainting the packaged products through the release low molecular weight and oligomeric by-products.

The Examiner has rejected all of the claims presently under consideration under 35 USC 102 (b) over the teachings of Bowles et al. (U.S. Patent 6,187,444). It is respectfully submitted that this rejection is unwarranted in view of the remarks herein below and the claims, as presently amended. Reconsideration and withdrawal of the rejection is solicited.

Bowles et al. is directed to products having a solid substrate (e.g. optical lenses, glass windows, ceramics, wood, masonry, etc.) to which their photochromic polyurethane coating is applied (Col.14, l. 32 et seq.) and, in particular, to solid substrates suitable for optical applications. The thrust of Bowles et al. teaching is to provide a product having a tough, abrasion-resistant coating capable of changing color under varying light conditions.

The polyurethane polymeric coating described by Bowles et al. is not the same as nor equivalent to the polyester containing film product of the present invention. Although both are formed by condensation polymerization technique, the reactants used and the resultant chemical structure of the presently claimed polyester forming the subject film and that of Bowles et al.'s polyurethane coated substrate are distinctly different.

The Examiner notes that the polyol reactant taught by Bowles et al. may be a polyester. The taught polyester prepolymers are low molecular

weight materials (Col. 7, l.65 +) which would not be deemed by the artisan to be suitable to form a flexible, free standing thin product, as presently contemplated. Further, such low molecular prepolymers are the types of material to which the present claimed invention avoids.

The Examiner notes that, in Bowles et al. teaching related to polyesters, each of the presently required monomers are listed as possible reactants. The cited monomers are merely part of a standard list of possible monomers. There is no teaching, which specifically directs one to polyesters composed of the presently required combination of mer units. Further, Bowles et al. teaching does not direct nor suggest to one skilled in the art to form polyesters from a combination of a major amount of THPA with a minor amount of isophthalic acid. Any such attempt could only be done by hindsight with the aid of the present application teachings.

The presently required polyester, formed from a major amount of THPA and a minor amount of isophthalic acid with certain defined polyols, has been unexpectedly found to achieve a product having high oxygen scavenging capabilities while inhibiting the formation and extraction of oligomeric material, which may be readily released from the film to taint a packaged product.

Bowles et al. admittedly teaches the use of polyols, including but not limited to those required by the presently claimed invention, to form polyester prepolymers suitable to form their polyurethane coating material. The reference's polyester prepolymers are low molecular weight materials, which are not the polymer product utilized or desired by the presently claimed invention. The referenced polyesters, per se, are more susceptible to

extraction from film products; would taint the packaged product in its intended utility; and would not be capable of forming a polymer film product.

The Examiner's contention that "[i]t is well known in the polymer art that (i) A coating layer is a film," is not supported by Bowles et al., when read in toto nor by the definition for "film" given in the present application.

Bowles et al. teach that their polyurethane composition is useful as a coating applied to a substrate such as a lens, window or the like to impart photochromic properties. Their coating must be supported by and contained on a substrate material. They teach that their coating is formed by solvent application to the substrate followed by curing at elevated temperatures over extended time period. This process is not applicable to the formation of free standing film product. There is no mention or suggestion that their polyurethane, no less the polyester prepolymer used to form same, could be a free standing, flexible film.

Applicants, being their own lexicographers, have defined the term "film" to be "flexible article having extended length and width dimensions and a thickness of from 5 to 260 micrometers". Thus, the presently claimed product is an extremely thin, continuous sheet which need not be in contact with a substrate. In general, the present film is conventionally formed by extrusion.

The Examiner erroneously contends that Bowles et al.'s coating products would inherently have oxygen scavenging properties in view of their chemical similarities to the claimed films.

Firstly, as discussed above, Bowles et al. polyurethane coating is chemically distinct from that of Applicants' polyester. Even if the polyurethane

is formed using a polyester prepolymer, Bowles does not teach nor suggest using a polyester formed from a major amount of THPA in combination with a minor amount of isophthalic acid. Applicants have unexpectedly found that such combination achieves high levels of oxygen scavenging while inhibiting formation and extraction of low molecular weight by-products during scavenging application.

None of Bowles et al. materials shown in their examples are inherent oxygen scavenging material. Further, Bowles et al. suggest incorporating Ni compound stabilizers (Col. 14, l. 7-8), UV absorbers (Col. 13, l. 64-65) and free- radical scavengers (Col. 14, l. 64-65) for the purpose of arresting any oxidation. Such additions would be counter to the formation of an oxygen-scavenging product.

It is respectfully submitted that Bowles et al. do not teach nor suggest the presently claimed film product having incorporated therein a specifically defined polyester. The polyester of the present claims requires formation from a high level of THPA in combination with low levels of isophthalic acid and the use of high molecular weight ($\geq C_5$) diol with small amount of triol.

Withdrawal of the rejection based on Bowles et al. is respectfully solicited.

The Examiner rejects all of the claims presently under consideration under 35 USC 103 (a) over the combined teachings of Bowles et al. in view of Chu (US Patent 4,720,356). It is respectfully submitted that this rejection is unwarranted and should be withdrawn. Such action is solicited.

The distinctions between the presently claimed film product having therein a specifically defined polyester and the product of Bowles et al. having a polyurethane coating on a substrate is discussed herein above.

The secondary reference of Chu does not overcome the defects of the primary reference to make obvious the presently claimed invention.

Both Bowles et al. and Chu teach the use of Ni and Co compounds in amounts to provide oxidation and UV stabilization in their polymeric compositions. In contrast, Applicants teach and claim the presence of a transition metal salt, compound or complex in amounts capable of initiating and catalyzing oxygen scavenging.

The combined teachings of Bowles et al. and Chu do not teach nor make obvious the presently claimed invention.

Withdrawal of the rejection made under 35 USC 103 is solicited.

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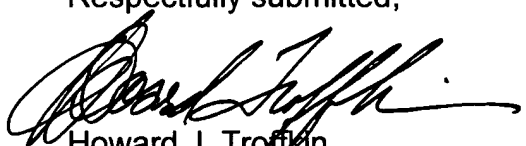
Applicant believes that the Examiner will agree that the presently claimed invention is patentably distinct and that the application is in condition for allowance. Such action is respectfully solicited.

Respectfully submitted,



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